

The effects of endurance exercise on serum cortisol increasing in a warm environment, heart rate, blood pressure and exhaustion in physical education students

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The aim of this study was to determine the effect of increasing endurance exercise in a warm environment on serum cortisol, heart rate, blood pressure and time to exhaustion was performed on girls' physical education students. Cortisol is one of the most important hormones that regulate the metabolism of sugars and lipids and lead to Excretion of lipids fat tissues and then lead to greater use of lipids as fuel source, and this Process result to increasing energy production in muscle cells The study is quasi-experimental. A sample of 15 individuals were determined using simple random sampling. The groups were divided to this way: Increasing endurance training to a group of 15 people within 34 -30 ° C as warm environments, endurance training to a group of 15 people within 24-22 ° C as the natural environment with an average age of 49/4 ± 00/28, average height 04/0 ± 61/1, the average weight of 04/7 ± 27/67, mean body mass index 31/3 ± 98/25 and waist to hip ratio 07/0 ± 80/0. In this study, subjects separately conducted an endurance training session on the treadmill. Increasing endurance exercises test was conducted up to seven stages and each stage, toke along three minutes in Bruce maximal Test. The first phase at 7. 1 mph or 7. 2 km per hour speed and slope gradient of 10% was initiated and was added at a fixed rate at any stage. The method of collecting information is based on clinical trials. Thus, cortisol, blood pressure, heart rate after exercise test was performed using blood tests and blood pressure measuring equipment. Data analysis was conducted by using repeated measures analysis of variance and it was performed using spss program. Statistical analysis of data showed that a increasing endurance training session in a hot environment can affect on serum cortisol levels, heart rate

and blood pressure $p > 0/05$ therefore there is a significant difference. Statistical analysis also showed that one session of increasing endurance training in a hot environment on blood pressure and heart rate recovery Does not affect $p > 0/05$ therefore there is no significant difference. Based on the results of this study can be concluded, that an increasing endurance exercise session in a hot environment is able to make a change in serum cortisol levels, blood pressure, heart rate and time to exhaustion.

Keywords : _increasing endurance activity, cortisol, blood pressure, heart rate, time to exhaustion, warm environment

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